Holy Angel Public School, Almora

Class: 10th

Summer Vacation Home Assignments

General Instructions

- Complete all holiday homework neatly and sincerely
- Read newspapers, magazines, and subject-related books to enhance your knowledge.
- Any project or practical work should be completed as per the given guidelines.
- Use a separate notebook/file for each subject, if instructed by your teacher.
- The deadline for homework submission is **July 6, 2026**

Dear Parents and Students,

Summer vacation is a wonderful opportunity to relax, refresh, and learn in a meaningful way. For students of **Class X**, this break is especially important as it marks the beginning of focused preparation for the **CBSE Board Examination**. It is the perfect time to strengthen concepts, improve study habits, and build confidence for the academic year ahead.

Dear Students, make the best use of this vacation by revising the topics you have already learned, practicing regularly, reading good books, and developing a disciplined study routine. The holiday homework and worksheets have been thoughtfully designed to help you reinforce concepts, enhance your analytical and problem-solving skills, and continue learning independently while enjoying your holidays.

Dear Parents, your support and encouragement are essential in helping your child stay motivated and maintain a healthy balance between learning and recreation. We request you to guide your ward in following a regular study schedule, completing the assigned work sincerely, and making productive use of their vacation.

The **Holiday Homework** and **Worksheets** have been attached for your reference. Kindly go through them carefully and ensure that all the assigned work is completed neatly, accurately, and submitted on time after the vacation.

Let this summer be a time of learning, creativity, self-discipline, and personal growth. We hope these holidays inspire our students to return to school with renewed enthusiasm, greater confidence, and a strong foundation for a successful academic year.

Wishing all our students and parents a Happy, Healthy, Safe, Productive, and Enriching Summer Vacation!

For Any Query Please Contact

Class Teacher - Neeraj Joshi

Contact No - 9639481501

हिंदी

मुख्य निर्देश:

1. क्षितिज भाग–2 तथा कृतिका भाग–2 से प्रत्येक पुस्तक के किसी एक पाठ का चयन करें।
2. चयनित पाठ पर आधारित एक सुंदर एवं रचनात्मक गतिविधि कार्य (प्रोजेक्ट) तैयार करें।
3. प्रोजेक्ट कार्य को साफ-सुथरे ढंग से चार्ट पेपर अथवा प्रोजेक्ट फाइल में प्रस्तुत करें।

प्रत्येक गतिविधि कार्य में शामिल करें:

• लेखक परिचय
• पाठ का सारांश
• पाठ आधारित प्रश्न–उत्तर

लेखक परिचय में:

- लेखक का नाम एवं संक्षिप्त जीवनवृत्त
- जन्म एवं शिक्षा
- प्रमुख रचनाएँ एवं योगदान

पाठ के सारांश में:

- संक्षिप्त विवरण
- मुख्य भाव, उद्देश्य एवं संदेश

प्रश्न–उत्तर:

- महत्वपूर्ण एवं परीक्षोपयोगी प्रश्न
- उनके स्पष्ट उत्तर

विशेष निर्देश:

• कार्य कम से कम 5 पृष्ठों का हो।
• सुंदर लेखन, प्रासंगिक चित्र एवं रचनात्मक सामग्री का प्रयोग करें।
• प्रोजेक्ट स्वयं तैयार करें तथा समय पर जमा करें।

“मेहनत, रचनात्मकता और नियमित अभ्यास से ही सफलता प्राप्त होती है।”

ENGLISH

Books: First Flight + Writing + Grammar
Note: Literature = First Flight only

Instructions:
1. Do in Grammar notebook. Write Date + Q.No. daily.
2. Word Limits: Letter 100–120, Article 120–150, Literature Answers 40–100 words.
3. For Literature: Point + Explanation + Quote (if possible).

Day 1: LETTER + LITERATURE (Chapter 1)
1. Write a formal letter (100–120 words) to the Editor on “Rising Air Pollution in Cities”.

2. A Letter to God:
Why did Lencho say “the money was not enough”? What did he do next? (40 words)

Day 2: GRAMMAR + LITERATURE (Chapter 2)
1. Tenses – 30 sentences:
• Present Perfect (10)
• Past Perfect Continuous (10)
• Future Perfect (10)
2. Nelson Mandela:
What “twin obligations” does every man have according to Mandela? (40 words)

Day 3: READING + POEM (Chapter 1)
1. Unseen Passage (200 words) on “Importance of Trees” with 5 questions and 4 vocabulary words.
2. Dust of Snow:
How did the crow and the hemlock tree change the poet's mood? Name one poetic device used.

Day 4: ARTICLE + LITERATURE (Chapter 3)
1. Write an article (120–150 words) on “Discipline – The Key to Success” with Heading and Byline.
2. Two Stories About Flying:
Why was the young seagull afraid to fly? How did his mother help him? (60 words)

Day 5: GRAMMAR + POEM (Chapter 2)
1. Modals and Voice:
15 Active–Passive sentences and 10 Modals (may, might, must, should, could).
2. Fire and Ice:
What are the two views about the end of the world? Which do you find more realistic? (50 words)

Day 6: REPORT + LITERATURE (Chapter 4)
1. Report Writing (100–120 words):
Investiture Ceremony held in your school on 10 June 2026.
Include: Headline, Byline, Date and 4W–1H.
2. From the Diary of Anne Frank:
Why does Anne say paper has more patience than people? (50 words)

Day 7 & 8: VOCABULARY + LITERATURE (Chapter 5)
1. 10 One-word substitutions and 8 idioms with sentences.
2. Glimpses of India:
Why is Coorg called “a piece of heaven”? Mention three features. (60 words)

Day 9 & 10: STORY WRITING + POEM (Chapter 3)
1. Complete the story (150–200 words):
“The key I found in the old desk unlocked something I never expected…”
Include Title and Moral.
2. A Tiger in the Zoo:
Contrast the tiger in the zoo and the tiger in the jungle in four points.

Maths

A. NCERT SECTION (To be done in separate Notebook)

Solve the following questions Chapter-wise

Chapter-1 (Real Numbers)

Q.1. Explain why 7 x 11 x 13 + 13 and 7 x 6 x 5 x 4 x 3 x 2 x 1 + 5 are composite numbers
Q.2. Find the HCF and LCM of 6, 72 and 120, using the prime factorization method.
Q.3. Check whether 6^n can end with the digit 0 for any natural number n.
Q.4. Prove that $3 + 2\sqrt{5}$ is irrational.
Q.5. Given that HCF (306, 657) = 9. Find LCM (306, 657)

Chapter – 2 (Polynomials)

Q.1. Find the zeroes of the polynomial $x^2 - 3$ and verify the relationship between the zeroes and the coefficients.
Q.2. Find all the zeroes of $2x^4 - 3x^3 - 3x^2 + 6x - 2$, if you know that two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$.
Q.3. Find a quadratic polynomial with the given numbers as the sum and product of its zeroes respectively. $\sqrt{2}$, $\frac{1}{3}$
Q.4. On dividing $x^3 - 3x^2 + x + 2$ by a polynomial g(x), the quotient and remainder were $x - 2$ and $-2x + 4$, respectively. Find g(x)
Q.5. Divide $3x^2 - x^3 - 3x + 5$ by $x - 1 - x^2$, and verify the division algorithm.

Chapter - 3(Pair of Linear Equations in two Variables)

Q.1. Graphically, find whether the following pair of equations has no solution, unique solution or infinitely many solutions: $5x - 8y + 1 = 0$; $3x - \frac{24}{5}y + \frac{3}{5} = 0$
Q.2. The sum of a two – digit number and the number obtained by reversing the digits is 66. If the digits of the number differ by 2, find the number . How many such numbers are there?
Q.3. Solve $2x + 3y = 11$ and $2x - 4y = -24$ and hence find the value the value of 'm' for which $y = mx + 3$
Q.4. If we add 1 to the numerator and subtract 1 from the denominator, a fraction reduces to 1. It becomes ½ if we only add 1 to the denominator. What is the fraction?
Q.5.Solve the following pairs of equations by reducing them to a pair of linear equations: $\frac{7x-2y}{xy} = 5$; $\frac{8x+7y}{xy} = 15$

Chapter – 4 *(Quadratic Equation)*

Q.1. Find the roots of the quadratic equation $3x - 2\sqrt{6}x + 2 = 0$
Q.2.Find the roots of $4x^2 + 3x + 5 = 0$ by the method of completing the square.
Q.3. The difference of squares of two numbers is 180. The square of the smaller number is 8 times the larger number. Find the two numbers.
Q.4. Is it possible to design a rectangular park of perimeter 80m and area 400 m^2 ? If so, find its length and breadth.
Q.5. Find two consecutive odd positive integers, sum of whose squares is 290.

Chapter – 5 *(Arithmetic Progression)*

Q.1. Determine the A.P whose 3rd term is 5 and 7th term is 9
Q.2.Find the sum of first 24 terms of the list of numbers whose nth term is given by $a_n = 3 + 2n$
Q.3. For what value of n, are the nth terms of two APs: 63, 65, 67,…….. and 3, 10, 17,……. equal?
Q.4. If the sum of first 7 terms of an A.P is 49 and that of 17 terms is 289, find the sum of first n terms.
Q.5. Find the sum of the first 40 positive integers divisible by 6.

Chapter – 6 (Triangles)

Q.1. State and prove Basic Proportionality Theorem.

Q.2. The diagonals of a quadrilateral ABCD intersect each other at the point O such that $\frac{AO}{BO} = \frac{CO}{DO}$. Show that ABCD is a trapezium.

Q.3. E is a point on the side AD produced of a parallelogram ABCD and BE intersects CD at F. Show that ΔABE ~ ΔCFB

Q.4. D is a point on the side BC of a triangle ABC such that ∠ADC = ∠BAC. Show that $CA^2 = CB.CD$

Q.5. If AD and PM are medians of triangles ABC and PQR, respectively where ΔABC ~ ΔPQR, Prove that $\frac{AB}{PQ} = \frac{AD}{PM}$

Chapter - 7***(Coordinate Geometry)***

Q.1. Show that the points (1, 7), (4, 2), (- 1, - 1) and (-4, 4) are the vertices of a square

Q.2. In what ratio does the point (-4, 6) divide the line segment joining the points A(- 6, 10) and B (3, - 8)?

Q.3. Find the point on the x – axis which is equidistant from (2, - 5) and (- 2, 9)

Q.4. Find the coordinates of a point A, where AB is the diameter of a circle whose centre is (2, - 3) and B is (1, 4)

Q.5.Find the value of k if the points A(2, 3), B(4, k) and C(6, - 3) are collinear.

B. NCERT EXEMPLAR SECTION

Select 10 questions from each Chapters Completed (Ch 1,2,3,4,5, 6 , 7& 8) : 5 MCQs, 3 Short Answer Type Questions & 2 Long Answer Type Questions {Note :Select good questions aligned with CBSE standard norms}

C. CBSE – PREVIOUS YEAR QUESTION PAPER : 2025 & 2026 QP and SQP

Attempt all the questions related to chapters 1 to 8 in your notebook

D. ACTIVITIES : **2 to 10 {to be done in Mathematics Lab Notebook}**

[Note – Do refer the pdf file of Mathematics Activities shared at respective class group]

E. PROJECTS : **Do refer the projects shared at respective Class groups & select any two.**

Represent the two selected projects in a file. You are required to demonstrate in the class, also.

F. Make a Portfolio with the following instruction:

PAGE 1. MY PORTFOLIO
PAGE 2. PHOTO, NAME , ROLLNO., CLASS, FATHER'S NAME, MOTHER'S NAME, D.O.B , ADDRESS
PAGE 3. MY GOALS / DREAMS AND ASPIRATIONS
PAGE 4. ACHIEVEMENTS (ACADEMICS,SPORTS, PUBLIC SPEAKING, CO-CURRICULAR)
PAGE 5. STRENGTH AND WEAKNESS (+VE AND –VE BOTH)
PAGE 6. My realistic strategies & study methods to score $\frac{100}{100}$ in Mathematics: CBSE Board Exam-2027.

Important Instructions: Timeline for submission of Summer Break Assignments is 06.07.2026.

PHYSICS

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Section A: Multiple Choice Questions (1 Mark Each)

Light: Reflection and Refraction

1. The image formed by a plane mirror is: a) Real and inverted b) Virtual and erect c) Real and erect d) Virtual and inverted
2. The focal length of a concave mirror is 15 cm. Its radius of curvature is:
   a) 7.5 cm b) 15 cm c) 30 cm d) 45 cm
3. A ray passing through the optical centre of a lens:
   a) Bends towards the principal axis b) Bends away from the principal axis
   c) Passes undeviated d) Gets reflected
4. The SI unit of power of a lens is:
   a) Metre b) Dioptre c) Watt d) Joule

5. The refractive index of a medium is:
   a) Always less than 1 b) Always greater than 1 c) Equal to 0 d) Negative
6. Which mirror is used as a rear-view mirror in vehicles?
   a) Plane mirror b) Concave mirror c) Convex mirror d) Cylindrical mirror

Human Eye and Colourful World

7. The ability of the eye lens to change its focal length is called:
   a) Persistence of vision b) Accommodation c) Refraction d) Dispersion
8. The least distance of distinct vision for a normal eye is:
   a) 10 cm b) 15 cm c) 25 cm d) 50 cm
9. The colour of the sky appears blue due to:
   a) Reflection b) Dispersion c) Scattering d) Refraction
10. Which colour of light is scattered the least?
   a) Violet b) Blue c) Green d) Red

Section B: Assertion–Reason Questions (1 Mark Each)

Choose the correct option:

- Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- Assertion is true but Reason is false.
- Assertion is false but Reason is true.

11. Assertion: Convex mirrors are used as rear-view mirrors in vehicles.
Reason: Convex mirrors provide a wider field of view.
12. Assertion: A concave mirror can form both real and virtual images.
Reason: The image formed depends on the position of the object.
13. Assertion: The power of a convex lens is positive.
14. Reason: Convex lenses converge parallel rays.
15. Assertion: The sky appears blue during the day.
Reason: Blue light is scattered more than red light.
16. Assertion: Stars appear to twinkle.
Reason: Atmospheric refraction continuously changes the apparent position of stars.
17. Assertion: A person suffering from myopia cannot see distant objects clearly.
Reason: The image is formed behind the retina.
18. Assertion: During sunset, the Sun appears reddish.
Reason: Red light suffers the least scattering.

Section C: Short Answer Questions (2 Marks Each)

19. State the laws of reflection of light.
20. Define:
(a) Principal focus (b)Radius of curvature (c) Pole of a mirror
21. Differentiate between real and virtual images.
22. Why is a convex mirror preferred as a rear-view mirror?
23. State Snell's law of refraction.
24. A lens has a focal length of +20 cm. Find its power.
25. What is accommodation of the eye?
26. Why does the Sun appear flattened at sunrise and sunset?
27. Explain why danger signal lights are red.
28. Why do planets not twinkle whereas stars do?

Section D: Numericals (3 Marks Each)

29. An object is placed 30 cm in front of a concave mirror of focal length 15 cm. Find the image distance and magnification.
30. An object is placed at a distance of 40 cm from a convex lens of focal length 20 cm. Calculate the image distance.
31. A lens has a power of +2.5 D. Find its focal length.
32. A concave lens has a focal length of −25 cm. Determine its power.
33. An object placed 10 cm in front of a convex mirror forms an image 5 cm behind the mirror. Calculate the focal length of the mirror.

Section E: Long Answer Questions (4 Marks Each)

34. Draw ray diagrams and explain image formation by a concave mirror when:
    (a) Object is beyond C.
    (b) Object is between F and C.
    (c) Object is between F and P.

35. Explain the image formation by a convex lens for different object positions using ray diagrams.
36. Describe the structure and working of the human eye with a labelled diagram.
37. Explain: Myopia and Hypermetropia
    (a) Their causes
    (b) Their correction using suitable lenses
38. Explain the following phenomena:
    (a) Tyndall effect
    (b) Blue colour of the sky
    (c) Red colour of the Sun at sunrise and sunset
39. Discuss atmospheric refraction and its applications in daily life.

Case-Based Questions (4 Marks Each)

Case Study 1: Rear-View Mirrors

40. A driver uses a convex mirror as a rear-view mirror in a car.
    a) Why is a convex mirror preferred?
    b) What type of image is formed?
    c) Is the image real or virtual?
    d) Mention one limitation of using a convex mirror.

Case Study 2: Spectacles

41. Riya cannot see distant objects clearly but can read books comfortably.
    a) Which eye defect does she have?
    b) What causes this defect?
    c) Which lens should be used for correction?
    d) Explain how the lens corrects the defect.

Case Study 3: Sunset Colours

42. While travelling in the evening, Aman observed that the Sun appeared reddish-orange.
    a) Which phenomenon is responsible?
    b) Why is red light observed?
    c) Which colour is scattered the most?
    d) Why does the Sun appear white at noon?

Creative Challenge (11 Marks)

Create a Mini Magazine:
"The Science of Seeing"
Include:

- Eye defects and corrections
- Amazing mirror applications
- Optical illusions
- Rainbow formation
- Why stars twinkle
- Why the sky is blue
- Lens applications in cameras and telescopes

Add drawings, photographs, newspaper cuttings, QR links to videos, and your own observations to make it engaging and interactive.

CHEMISTRY

Section A: Multiple Choice Questions (MCQs)

Q1. Which of the following is a double displacement reaction?

a) $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$
b) $CaO + H_2O \rightarrow Ca(OH)_2$
c) $BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 + 2NaCl$
d) $2KClO_3 \rightarrow 2KCl + 3O_2$

Q2. Which gas is evolved when zinc reacts with dilute hydrochloric acid?

a) Oxygen
b) Carbon dioxide
c) Hydrogen
d) Nitrogen

Section B: Assertion–Reason

Q3. Assertion (A): Neutralisation is an exothermic reaction.
Reason (R): Heat is produced when an acid reacts with a base.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true.

Section C: Short Answer

Q4. State any three characteristics that help us identify that a chemical reaction has taken place.
Q5. Differentiate between strong acids and weak acids with one example each.

Section D: Competency-Based

Q6. A student accidentally leaves an iron nail in a moist environment for several days.
a) What change will occur in the nail?
b) Name the process involved.
c) Write two conditions necessary for this process.

Q7. Why should concentrated acids always be added slowly to water and not water to acid? Explain with

reason.

Section E: Case-Based
Q8. Rohan was suffering from acidity. The doctor advised him to take an antacid tablet containing magnesium hydroxide.
a) Is magnesium hydroxide acidic or basic?
b) Why is it used as an antacid?
c) What type of reaction occurs when an antacid reacts with excess stomach acid?
d) Write the word equation for the reaction.

Section F: HOTS
Q9. A white powder 'X' is commonly used in making cakes and bread. On heating, it releases a gas that makes the dough rise.
a) Identify 'X'.
b) Name the gas evolved.
c) Write the balanced chemical equation.
d) Why is this substance preferred in baking?

Section G: Long Answer
Q10. Explain corrosion in detail.
a) Definition of corrosion
b) Conditions necessary for rusting
c) Harmful effects of corrosion
d) Any two methods used to prevent corrosion

ACTIVITY / MINI PROJECT
"Chemistry Around Us" – Natural pH Indicator Investigation

Prepare a natural indicator using turmeric, hibiscus flower, red cabbage, or beetroot.
Test it on:
• Lemon juice
• Vinegar
• Soap solution
• Baking soda solution
• Toothpaste solution

Record observations in a table and conclude which are acidic or basic.

Biology

Task 1: Diagram Portfolio (Practical File Work)

Draw scientifically accurate, neat, and **well-labeled diagrams** from the chapter *Life Processes* on standard practical file pages.

Key Diagrams to Include:

- **1. Nutrition:**
  - Cross-section of a leaf showing chloroplasts, vascular bundles, and guard cells.
  - Opening and closing mechanism of stomatal pores.
  - Stages of holozoic nutrition in Amoeba (Phagocytosis flowchart).
  - The Human Alimentary Canal (Complete Digestive System).
- **2. Respiration:**
  - Flowchart showing the breakdown of glucose by various pathways (absence, lack, and presence of oxygen).
  - The Human Respiratory System highlighting the trachea, bronchi, and alveolar sacs.
- **3. Transportation:**
  - Schematic internal sectional view of the Human Heart showing chambers, valves, and directions of blood flow.
  - Schematic representation of double circulation in the human body.
- **4. Excretion:**
  - The Human Excretory System including kidneys, ureters, urinary bladder, and urethra.
  - Detailed structural layout of a Nephron (Bowman's capsule, glomerulus, and tubular system).

Instructions for Diagram Work:

- **Sheet Format:** Use standard practical file sheets (blank on the left side for the diagram, ruled on the right side if referencing brief descriptions/functions).
- **Drafting Tool:** Use a sharp, dark HB pencil exclusively for drawing and pointing. **Ink pens, sketch pens, or markers are strictly prohibited for outlines.**
- **Labeling Protocol:** All labels must be printed clearly in **BLOCK LETTERS**. Align pointing lines horizontally to the right side of the diagram using a transparent ruler. Ensure pointing lines never cross each other.
- **Accuracy:** Proportions and anatomical structures must align strictly with the diagrams prescribed in your NCERT textbook.

Task 2: Revision & Conceptual Mastery

- Thoroughly read and revise the entire chapter *Life Processes* from your NCERT textbook and class notebooks.
- Build conceptual clarity around the comparative mechanisms of nutrition, respiration, transportation, and excretion between plants and animals.

- **Note:** A comprehensive diagnostic test and a viva-voce evaluation covering this chapter will be conducted immediately upon the reopening of the school.

Submission Guidelines

- **Compilation:** Bind all practical sheets securely in a neat, transparent project folder or a designated lace file.
- **Cover Identification:** The front layout sheet must prominently list your Full Name, Class, Section, Board Roll Number/Admission Number, and Subject.
- **Strict Deadline:** The completed portfolio must be physically submitted to the subject teacher on the **first day of school reopening.**

SOCIAL SCIENCE (SST)

Day 1: European Nationalism & Ideologies
- Significance of Frédéric Sorrieu's utopian vision (1848).
- Define Liberalism, Conservatism and Balkan Conflict.

Day 2:
- Compare Unification of Italy and Germany.
- Marianne and Germania.

Day 3:
- Non-Cooperation Movement and Chauri Chaura.
- Difference between Non-Cooperation and Civil Disobedience.

Day 4:
- Map Work: Champaran, Kheda, Ahmedabad, Amritsar (Jallianwala Bagh), Dandi.
- Cultural processes and collective belonging.

Day 5:
- Sustainable Development and Earth Summit (1992).
- Major soil types in India.

Day 6:
- Reserved, Protected and Unclassed Forests.
- Chipko Movement and Beej Bachao Andolan.

Day 7:
- Belgium vs Sri Lanka power sharing.
- Four forms of power sharing.

Day 8:
- Federalism in India.
- Union, State and Concurrent Lists.
- 73rd & 74th Amendments.

Day 9:
- Concepts of Development.
- Per Capita Income and other indicators.

Day 10:
- Primary, Secondary and Tertiary sectors.
- Disguised unemployment.
- Employment generation in rural areas.

Information Technology

Unit 4: Entrepreneurial Skills – II (Employability Skill)

1. Write any **10 qualities of a successful entrepreneur** with suitable examples.
2. Prepare a chart on **5 successful Indian entrepreneurs** and mention their businesses.
3. Write the definitions of **Entrepreneur, Entrepreneurship, and Enterprise**. Give one example of each.
4. Write a paragraph on **How entrepreneurship helps society** (150–200 words).

Unit 4: Health, Safety and Security (Subjective Skill)

1. **Project Work**
   Prepare a chart or poster on any one topic:

   - Healthy Lifestyle
   - Road Safety
   - Cyber Security
   - First Aid Awareness

2. Make a colorful project page on **"Entrepreneurship as a Career Option"** and write why you would or would not like to become an entrepreneur.

Topic: ***My Dream Business***

Include:

1. Business Name
2. Logo (Handmade)
3. Product/Service
4. Target Customers
5. Estimated Investment
6. Marketing Strategy
7. Expected Profit
8. Conclusion

Activity
Write a report (150–200 words) on:
"How I Can Maintain My Health, Safety and Security in Daily Life"